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Tesla, Nikola
Tesla Nitrates Company.
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by Tesla)

213808

PROSPECTUS FOR MR. TESLA'S NITRATES COMPANY.

Discoveries
* Nikola Tesla, whose ~~inventions~~ *discoveries* have formed the basis of so many ~~more recent~~ *practical* applications of electricity, and which by ~~their world-wide recognition have given this inventor a prominent position in the field of electricity, and, by a series of discovered~~ *his evolution of a new and efficient process for* ~~inventions over many years, and all protected by valid patents in all the great countries of the world, involved a process for the fixation of atmospheric nitrogen, ^{that is, its chemical combination with} the oxygen of the ^{air} atmosphere.~~

~~which, by its tremendous value and wide-reaching influence, bids fair to outrank many times his wonderful invention of the alternating current motor.~~

~~First, that his high-frequency electric discharges in the atmosphere give in a much more effective degree a peculiar electric chemical stress, which brings about this most difficult of combinations; a stress which all workers in this field have recognized for years as being one which not only must be of tremendous power, but of almost infinite suddenness. The time element which has so materially interfered with the success of other workers in this field, has, by Mr. Tesla's invention, been almost entirely removed as an objection.~~ (over)

~~Second, Mr. Tesla's peculiar means of obtaining phenomenally high voltages (ranging into the millions of volts) from apparatus of most moderate dimensions enables him to obtain the~~

~~early~~ ^{early} ~~recognized~~ ^{recognized} the immense possibilities of such
 a departure, and in an article published a few years
 ago he made the startling prediction that the ~~electric~~ ^{electric} fixation of atmospheric nitrogen would before long develop into
 an industry as important as that of iron. At this date nothing has been
 done towards commercial exploitation. But here is his foresight in
 absorption - by the fact that in various countries enormous
 plants have been installed since ~~and large investments have been made~~ ^{and large investments have been made}. In
 Norway ~~about the completion of the first quarter of a million~~ ^{about the completion of the first quarter of a million}
 horsepower and produce 125,000 tons of ~~nitric acid~~ ^{nitric acid}
~~in one day, and fifty million dollars have been already invested in the industry.~~
~~from the production of these wonder-working plants.~~
 method and apparatus utilizing no more than 5 per cent
 of the electric energy of the current, and ~~allowing for a~~
 first cost so great, ~~that the interest and maintenance charges have rendered the~~
 business ~~not~~ ^{very} attractive to capital.
 The fixation or burning of atmospheric nitrogen
 effected economically ~~by lightning discharges~~ ^{by lightning discharges} which
 precipitate from four to twenty pounds of nitrogen
 compounds per acre per year, an enormous amount
 when considering their scarcity. This high efficiency
 is due to the great power, suddenness, length and volume of
 the discharge, and instant cooling, resulting therefrom.
 If these ideal requirements are fulfilled in
 the new ~~process~~ ^{process} ~~propounded by the Tesla Nitrobel Company~~ ^{propounded by the Tesla Nitrobel Company}.
 The "Tesla Transformer" ~~which is possible to obtain~~ ^{which is possible to obtain} ~~the production of~~
 electrical effects of virtually unlimited power, surpassing
 even those of lightning, ~~as has been demonstrated~~ ^{as has been demonstrated} ~~in actual experiments~~
 The "high frequency" or so-called Tesla currents ~~have the~~
 peculiar property of ~~fixing~~ ^{fixing} the dissolved effi-
 cacies of nitrogen, causing the gas to ~~combine~~ ^{combine} ~~with~~
 a lower expenditure of energy.

XXXX

attenuated are so necessary for the highest efficiency.

Third, by virtue of the peculiar nature of Mr. Tesla's transformer, he is enabled to produce a certain tonnage of product with such a small amount of apparatus and a consequently reasonable investment as to multiply a thousand-fold, the capacity efficiency of his plant. This item is of vast importance in connection with this subject. Many experimenters have produced nitric acid from the atmosphere and there are now some very large plants engaged in this industry, and particularly in Norway, that involves upwards of \$50,000,000 and which will absorb some 200,000 horse power when it is fully expanded, but without exception all these efforts have resulted in a first cost of apparatus so great that the interest and maintenance alone thereof puts a fixed charge upon each ton of the product that has heretofore rendered the business indifferently attractive to capital. Ignoring, there-

for the moment, the increased efficiency claimed by Mr. Tesla, or his novel method of burning the atmosphere, and assuming only that he shall burn it as it has been done before by ^{the old process}, ~~the commercial~~ ^{advantages secured will still be such as to make the success} ~~of the project absolutely certain~~ ^{if power can be had at a reasonable price, for} ~~the first cost of the project absolutely certain~~ ^{pure nitric acid} ~~the first cost of costing 80-100 dollars, per ton of annual product, will only call for an~~ ^{and its sale (and all nitrate prepared thus from the atmosphere} ~~are paid for 100 to 200 dollars, per ton, and even the crude~~ ^{articles of commerce, such as the Chile saltpeter, with 5% of} ~~impurities, sell for \$55, and better.~~ ^{impurities, sell for \$55, and better.} ~~and a small charge of investment of \$50, or \$100, per ton of put-~~ ^{put becomes.} ~~The operation of these plants, like those of nitr-~~ ^{electric installations, require, but little labor.} ~~There is no essential~~ ^{and care.}

1. Their insuperable suddenness, removes one great obstacle which has so materially interfered with the success of the old method and appliances.
2. Their means for generating enormous pressure with apparatus of comparatively small dimensions, enables the production of great charges of ores of the great length and volume so necessary to the highest efficiency.

3. They then means which enable to operate works of any capacity, however great, to burn the ore at any desired rate and then increase or decrease fold the effectiveness of the plant. The Torb apparatus may be likened to a turbine running at a stupendous speed, while that ~~one~~ ~~employed~~ is comparable to an old-fashioned engine turning slowly. For the same performance the latter is overpowered and cumbersome and expensive. ~~There is a saving in the cost of the plant and of the charges.~~

4. This is of vital importance to the enterprise reducing as it does, to a minimum the first cost and ^{the burden of} fixed charges. To illustrate, ~~consider that~~ disregarding $\times \times$ (other side)

part ^{of the plant} ~~of the plant~~ subject to rapid ^{deterioration} ~~wear and tear~~; in fact, most of it is ^{good for one hundred years} ~~good for one hundred years~~ and consists principally of brick ^{and metal and is good for centuries} ~~buildings, transformers, brick or tile combination chambers and equipping powers or their equivalent~~. The process is a continuous one and once started requires no manual labor. ^{electrically} ~~electricity~~ continuing to burn the atmosphere into nitric fumes, which in turn combine with water to make nitric acid, and this goes on until the ~~current~~ ^{current} is switched off, and immediately recommences when the ~~current~~ ^{current} is ~~again~~ ^{again} switched on.

There is no loss upon the discontinuing of the process for an hour, a day, a month or a year, ^{other than} ~~except that~~ ^{the} due to plant lying idle and carrying its ^{no small} ~~portion~~ of interest. It is obvious, therefore, that it ~~only remains to obtain power at a sufficiently~~ ^{charge} ~~reasonable price to make an almost unlimited industry of this~~ ^{can be built up} ~~can be built up~~ with a very reasonable investment of capital yielding annually a return many times the first cost.

The Tesla Nitrates Company owns the exclusive rights under the United States patents granted to ~~Mr.~~ ^{and} Tesla, applicable to the manufacture of nitrates from the atmosphere, ^{which are the following:} ~~which are the following:~~ ^{It will be our aim} ~~his future inventions when they shall be made, relative~~ ^{improvements, he may make} ~~to this subject, and we get the benefit of his assistance and advice.~~

^{insert paragraph last page} ~~It is proposed to immediately make a demonstration of the~~ ^{through advisable} ~~salient advantages of the novel process with a model plant~~ ^{on the commercial magnitude} ~~in the immediate vicinity of New York City, where experts and investors may see for themselves the~~ ^{practical application of these inventions, in a full sized unit} ~~apparatus. In making this test, Mr. Tesla will have at his disposal, a plant that has already cost over \$300,000, a large~~ ^{part of which will be immediately available.} ~~It is estimated that this test will involve an expenditure of \$25,000~~ ^{will be ample to meet}

ishing of the additional apparatus, partly for attendance and
all expenses in the connection. The details of the plant are under
operation and partly for the very full and exhaustive demonstra-
tion which it is proposed to be made.
The important purpose of extensively testing the latest improvements
prior to their application on the large scale contemplated.

XXXX Off. Tesler is now devoting himself to
the perfection of plans for ~~small~~ large ^{installation} plant
being assisted in this work by a ~~small team~~
of international experts ~~who have been for a long time~~
~~working on the project~~
a long experience in the fixation of Nitrogen
by the old method and is thoroughly familiar
with all ~~the~~ facts pertaining to the manufacture
and sale of the products. In the near
future X X

PROSPECTUS FOR MR. TESLA'S NITRATES COMPANY.

Discussions
Mr. Nikola Tesla, whose ~~inventions~~ ^{discussions} have formed the basis of so many ~~more recent~~ ^{more recent} practical applications of electricity, and which by ~~their world-wide recognition have given this inventor a prominent~~ ^{their world-wide recognition have given this inventor a prominent} position in the field of electricity, has, by a series of discoveries ~~interesting over many years, and all protected by valid patents~~ ^{interesting over many years, and all protected by valid patents}

has evolved
a new and
efficient
process for

the fixation of atmospheric nitrogen, ^{that is, its chemical combination with} ~~the oxygen of the atmosphere~~ ^{the oxygen of the ^{air} atmosphere}

~~which, by its~~ ^{which, by its} tremendous value and wide-reaching influence, bids fair to outrank many times his wonderful invention of the alternating current motor.

~~It is a field of his own, and his own.~~ (over.)

First, that his high-frequency electric discharges in the atmosphere give in a much more effective degree a peculiar electric chemical stress, which brings about this most difficult of combinations; a stress which all workers in this field have recognized for years as being one which not only must be of tremendous power, but of almost infinite suddenness. The time ~~element which has so materially interfered with the success of~~ ^{element which has so materially interfered with the success of} other workers in this field, has, by Mr. Tesla's invention, been almost entirely removed as an objection.

Second, Mr. Tesla's peculiar means of obtaining phenomenally high voltages (ranging into the millions of volts) from apparatus of most moderate dimensions enables him to obtain the

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recognised the immense possibilities of such
a development, and even as recently published a few years
ago he made the startling prediction that ~~the~~
the electric fixation of atmospheric nitrogen would before long develop into
an industry rival, in fact of it, in importance. At that date nothing had been
done towards commercial exploitation. Now there is his foresight
corroborated by the fact that in various countries enormous
plants have been installed since ~~a large number of particular~~
~~Norway alone has completed eight such enterprises~~
~~Lisbon and London~~ ~~alone~~ ~~the~~ ~~19000 tons of nitric acids~~
and fifty million dollars have been already invested in the enterprise.

Method and apparatus utilizing no more than 4 per cent
of the electrical energy of the current, and requiring but a
first cost so great, ^{that the} interest and maintenance charges have rendered the
business ^{very} attractive to capital.

business, & is really addressed to capital.
It is the fixation or turning of "atmospheric hydrogen" ~~into~~ effected ~~by lightning~~ ~~by lightning~~ by lightning discharges, which precipitate from four to twenty pounds of nitrogenous compounds per acre per year, an enormous amount when considering their scarcity. This high affluence is due to the great power, suddenness, rapid and volume of the discharges, and instant cooling, resulting therefrom.

These stated requirements are fulfilled in
the new ~~process~~ ^{which is the result of years of labor and is now} process owned by the Taster & Refiner Company.

of The "Tesla Transformer" enables the production of electrical effects of virtually unlimited power, surpassing even those of lightning, as has been demonstrated in actual experiments by the inventor.

4. The "high frequency," or so-called Tesla current, ^{of the invention} also
have the peculiar property ~~of~~ ^{of} exciting the electrical effi-
ciency of it, ^{more readily and} causing the gas to combine with
a lesser expenditure of energy.

×人入××

attenuated are so necessary for the highest efficiency.

Third, by virtue of the peculiar nature of Mr. Tesla's transformer, he is enabled to produce a certain tonnage of product with such a small amount of apparatus and a consequently reasonable investment as to multiply a thousand-fold, the capacity efficiency of his plant. This item is of vast importance in connection with this subject. Many experimenters have produced nitric acid from the atmosphere and there are now some very large plants engaged in this industry, ~~particularly in Norway, that involves upwards of \$50,000,000. and which will absorb some 200,000 horse power when it is fully expanded, but without exception all these efforts have resulted in a first cost of apparatus so great that the interest and maintenance alone thereof puts a fixed charge upon each ton of the product that has heretofore rendered the business indifferently attractive to capital. Ignoring, therefore~~ for the moment, the increased efficiency ~~claimed by Mr. Tesla, or his~~ ^{of Tesla's} novel method of burning the atmosphere, ^{consisting essentially from the use of} and ^{assuming} granting only that he shall burn it as it has been done before by ~~attenuated~~ that his devices are applied to the old process, the commercial ~~advantage~~ ^{it will be readily seen that it can reduce the cost of the} ~~apparatus from \$100 per ton of output to \$8 or less, it simply~~ ^{of the process absolutely certain if power can be had at a reasonable price, for} ~~remains to get power at a sufficiently reasonable price to make~~ ^{from the atmosphere, instead of burning it, so much less for the} ~~the cost of the product absolutely certain. Pure nitric acid~~ ^{he plant, instead of costing 80-100 dollars per ton of annual product, will only call for an} ~~and its salts (and all nitrates prepared thus from the atmosphere~~ ^{corresponding expenditure of eight dollars, or less. From this acid and salts, which are} ~~are pure) will cost from \$100 to \$200 per ton, and even the crude~~ ^{of commerce, such as the Chili saltpetre, with 5% of} ~~articles of commerce, such as the Chili saltpetre, with 5% of~~ ^{100-200 dollars per ton or less, and} ~~impurities, sell for \$55 and better.~~ ^{such an installation} ~~and that such a large plant can be built for a small charge of investment of \$3 or \$10 per ton of put-~~ ^{put becomes.} ~~put becomes.~~ ^{There is no} ~~The operation of these plants, like those of hydro-~~ ^{electric installation} ~~electric installation, require but little labor.~~ ^{and care.}

8. This ~~inexpensive~~ ^{simplicity} removes one
great obstacle which has so mechanically ~~retarded~~
hitherto the progress of the old method and ~~applied~~
9. This means for generating enormous electrical
pressures with apparatus of ~~the~~ ^{very} simple
dimensions, avoiding the production of ~~the~~
charges of arcs of the great length and volume
so necessary to the highest efficiency.

10. This ~~new~~ ^{new} ~~method~~ ^{method} ~~is~~ ^{is} ~~possible~~ ^{possible} ~~to~~ ^{to} ~~operate~~ ^{operate} ~~units~~ ^{units}
of any capacity, however great, to burn the arc
at any desired voltage and thus ~~increase~~
a thousand fold the effectiveness of the plant.
The Turb apparatus may be likened to a turbine
running at a stupendous speed, while that ~~old~~
~~apparatus~~ ~~for~~ ~~operation~~ is comparable to
an old-fashioned engine turning slowly. For
the same performance the latter is overpowered
more cumbersome and expensive. ~~That~~
~~a~~ ~~cost~~ ~~to~~ ~~run~~ ~~the~~ ~~plant~~ ~~is~~ ~~very~~ ~~high~~ ~~and~~ ~~the~~ ~~first~~ ~~cost~~
~~of~~ ~~the~~ ~~plant~~ ~~is~~ ~~very~~ ~~high~~ ~~and~~ ~~the~~ ~~first~~ ~~cost~~

11. This is of vital importance to
the enterprise reducing, as it does, to a mini-
mum the first cost and ^{the burden of} ~~the~~ ^{fixed} charges. To
illustrate, ~~namely~~ ~~that~~ disregarding xx (other side)

part of the plant
fact, most of it is ~~good for one hundred years~~ ^{subject to rapid deterioration} in
principally of brick ^{and metal and} ~~buildings, transformers, brick or tile com-~~
~~ination chambers and equipping powers or their equivalent.~~ The

process is a continuous one and once started requires no manual
labor. ~~It is electrically~~ ^{electrically} continuing to burn the atmosphere into
nitric fumes, which in turn combine with water to make nitric
acid, and this goes on until the ~~current~~ ^{current} is switched off,
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There is no loss upon the discontinuing of the process for an
hour, a day, a month or a year, ^{other than} ~~except~~ that ~~due to~~ ^{the} plant
lying idle and carrying ~~its burden~~ ^{no small} of interest. It is obvious,
therefore, that ~~it only remains to obtain power at a sufficiently~~
~~reasonable price to make an almost unlimited industry of this~~
~~kind~~ ^{can be built up} with a very reasonable investment of capital yielding
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under the United States patents granted to ~~Mr.~~ ^{and} Tesla, applicable
to the manufacture of nitrates from the atmosphere. ~~Which are the following:~~

^{It will be our aim} ~~to make his future improvements when they shall be made, relative~~
to this subject, ^{improvements he may make} ~~and use for the benefit of his assistance and advice.~~

^{xxxx} ~~It is proposed to immediately make a demonstration of the~~
~~salient advantages of the novel process with a model plant~~
~~on the commercial magnitude in the immediate vicinity of New York~~

City, where experts and investors may see ~~for themselves~~ ^{and judge for themselves of their value.} the
practical application of ~~these~~ ^{his} inventions, ~~in a full sized unit~~

apparatus. ~~In making this test, Mr. Tesla will have at his~~
~~disposal, a plant that has already cost over \$800,000, a large~~
~~part of which will be immediately available.~~ It is estimated that

~~this test will involve an expenditure of \$25,000 for the test~~
~~plant~~ ^{will be ample to meet}

ishing of the additional apparatus, partly for attendance and
all expenses in the connection. Undoubtedly this plant will serve
operation and partly for the very full and exhaustive demonstra-
tion which it is proposed to be made
prior to their application on the large scale contemplated.

XXXX # Tesla is now devoting himself to
the perfection of plans for ~~an~~ ^{installation} large plant
being installed in this work by a well known
practical ^{of international} engineer, who has ~~been~~ ^{been} for a long time
~~his experience~~
a long experience in the fixation of Dr. Croger
by the old method and is thoroughly familiar
with all ~~the~~ facts pertaining to the manufacture
and sale of the products. In the near
time XX

NIKOLA TESLA.
PRESIDENT.

COLUMBIA
Spec

TESLA NITRATES COMPANY

165 BROADWAY

NEW YORK

Oct. 13 1900

Tesla,
New
To C
a.l.

40032E

My dear Dr. Scherff

The T. Electro-Therapeutic Co and the T. Population
Co will be incorporated next week.
My new company is located in Bridgeport
and is doing a great thing. This really means
a universal revolution in mechanics and there
is scarcely a department which we are not
profoundly affected. We expect to create
new tools this week and are keeping our
new work by right.

Truly

N. Tesla

NIKOLA TESLA,
PRESIDENT.

TESLA NITRATES COMPANY

165 BROADWAY

NEW YORK